

**PLASMA IMMERSION ION IMPLANTATION PROCESS USING AN
INDUCTIVELY COUPLED PLASMA SOURCE HAVING LOW
DISSOCIATION AAND LOW MINIMUM PLASMA VOLTAGE**

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ABSTRACT

A method for implanting ions in a surface layer of a
workpiece includes placing the workpiece on a workpiece
support in a chamber with the surface layer being in facing
10 relationship with a ceiling of the chamber, thereby defining
a processing zone between the workpiece and the ceiling, and
introducing into the chamber a process gas which includes
the species to be implanted in the surface layer of the
workpiece. The method further includes generating from the
15 process gas a plasma by inductively coupling RF source power
into the processing zone from an RF source power generator
through an inductively coupled RF power applicator, and
applying an RF bias from an RF bias generator to the
workpiece support.

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